

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF VIRGINIA  
ABINGDON DIVISION**

**UNITED STATES OF AMERICA**

V.

**MICHAEL JOHN HARRIGAN.**

Defendant.

Case No. 1:19CR00024-001

## OPINION AND ORDER

By: James P. Jones  
United States District Judge

*Zachary T. Lee, Assistant United States Attorney, Abingdon, Virginia, for United States; Dennis E. Jones, DENNIS E. JONES PLC, Abingdon, Virginia, for Defendant.*

In this Opinion, the court resolves objections by the defendant to his guideline sentencing range following his guilty plea to conspiring to distribute a synthetic cannabinoid drug called AB-FUBINACA, a Schedule I controlled substance. This Opinion recites the court's legal analysis and findings of fact following an evidentiary hearing on the issues raised.

## I. Background.

The defendant, Michael John Harrigan, entered a guilty plea on November 5, 2019, pursuant to a written Plea Agreement, to Count One of the Indictment charging him with conspiring to distribute and possess with intent to distribute AB-FUBINACA, a Schedule I controlled substance, on or about and between September

24, 2013, and April 28, 2017, in violation of 21 U.S.C. §§ 846, 841(b)(1)(C). The parties agreed that the 2016 edition of the U.S. Sentencing Guidelines Manual (USSG) would apply to any guideline calculation, Plea Agreement 3, ECF No. 63, and that Harrigan would pay a forfeiture of \$500,000 to the United States, *id.* at 7.

A Presentence Investigation Report (PSR) was prepared by a probation officer to assist the court in sentencing the defendant. The PSR recited that Harrigan had been the owner of a business in Florida that he primarily used for the distribution of synthetic cannabinoid, which was disguised and marketed as “potpourri.”<sup>1</sup> Sales were made by telephone, mail, and through various websites. Harrigan obtained the synthetic cannabinoid from China and his employees sprayed the drug onto inert plant material and packaged it in various-sized baggies for sale directly and to retail distributors. In October of 2013, law enforcement officers learned through an informant that Harrigan was supplying the drug into this judicial district. Further investigation showed the large scope of Harrigan’s business, involving considerable amounts of money. Based upon an analysis by U.S. postal inspectors, Harrigan shipped at least 129,268.052 grams of synthetic cannabinoid into this judicial district during the time period covered by the Indictment. PSR ¶ 33, ECF No. 88. In his

---

<sup>1</sup> Synthetic cannabinoids are often marketed as “incense,” “air freshener,” or “spice,” as well as “potpourri.” Of course, buyers naturally understand these products to be a smokable recreational drug. *See United States v. El Hage*, 741 F. App’x 194, 196 (5th Cir. 2018) (unpublished).

statement of acceptance of responsibility, Harrigan admitted his participation in the conspiracy, but asserted that not all of the synthetic cannabinoid distributed was AB-FUBINACA. In his Plea Agreement, he generally waived his right to appeal, but reserved the right to appeal “the legal issue of which drug conversion ratio set forth in the 2016 United States Sentencing Guidelines Manual should apply to calculate the converted drug weight.” Plea Agreement 9, ECF No. 63.

In advance of sentencing, Harrigan filed numerous objections to the PSR. The objections relate to the issues of (1) the proper drug conversion ratio for AB-FUBINACA under the 2016 guidelines and (2) the quantity of controlled substances that should be attributed to the defendant. A hearing was held on the objections on March 13, 2020, at which the parties presented evidence on the issue of the proper conversion ratio.

## *II. The Conversion Ratio and the Use of 2016 Guidelines Manual.*

As anyone familiar with the War on Drugs knows, the suggested sentencing range for federal drug offenses is mainly dependent on the drug quantity attributable to the defendant for the illicit drug. The sentencing guidelines contain a table of specific drugs and quantities with corresponding base offense levels to be applied as to each drug and quantity. USSG § 2D1.1(c) (Drug Quantity Table). Many controlled substances are not listed on the Drug Quantity Table. In such a case, the guidelines direct that the court must “determine the base offense level using the

marihuana equivalency of the most closely related controlled substance referenced in this guideline,” by using the Drug Equivalency Tables. *Id.* at cmt. n.6, 8(A)(i).<sup>2</sup> The commentary to the guidelines provides that in determining the most closely related controlled substance, the court must, “to the extent practicable,” consider the following factors:

(A) Whether the controlled substance not referenced in this guideline has a chemical structure similar to a controlled substance referenced in this guideline.

(B) Whether the controlled substance not referenced in this guideline has a stimulant, depressant, or hallucinogenic effect on the central nervous system of a controlled substance referenced in this guideline.

(C) Whether a lesser or greater quantity of the controlled substance not referenced in this guideline is needed to produce a substantially similar effect on the central nervous system as a controlled substance referenced in this guideline.

*Id.* at cmt. n.6.<sup>3</sup>

---

<sup>2</sup> Except where indicated, references herein are to the 2016 version of the USSG, as agreed to by the parties. In 2018, the Sentencing Commission replaced “marihuana” with the term “converted drug weight” and changed the name of the Drug Equivalency Tables to Drug Conversion Tables. USSG amend. 807 (eff. Nov. 1, 2018). (The sentencing guidelines use the “h” spelling of marijuana, for a reason that is apparently unclear. *See* Christopher Ingraham, ‘*Marijuana*’ or ‘*marihuana*’? *It’s all weed to the DEA*, The Washington Post, Dec. 16, 2016, <https://www.washingtonpost.com/news/wonk/wp/2016/12/16/marijuana-or-marihuana-its-all-weed-to-the-dea/>.)

<sup>3</sup> The commentary accompanying guideline sections must be followed by the court in determining the appropriate guideline sentencing range. USSG § 1B1.7.

The Drug Equivalency Tables provided in the 2016 version of the guidelines as follows:

<b>SCHEDULE I MARIHUANA</b>	
1 gm of Marihuana/Cannabis, granulated, powdered, etc. =	1 gm of marihuana
1 gm of Hashish Oil =	50 gm of marihuana
1 gm of Cannabis Resin or Hashish =	5 gm of marihuana
1 gm of Tetrahydrocannabinol, Organic =	167 gm of marihuana
1 gm of Tetrahydrocannabinol, Synthetic =	167 gm of marihuana

*Id.* at cmt. n.8(D). In Amendment 807, effective November 1, 2018, the Sentencing Commission added a new provision, as follows:

<b>SYNTHETIC CANNABINOIDS (EXCEPT SCHEDULE III, IV, AND V SUBSTANCES)*</b>	<b>CONVERTED DRUG WEIGHT</b>
1 gm of a synthetic cannabinoid (except a Schedule III, IV, or V substance) =	167 gm
<p>*<i>Provided</i>, that the minimum offense level from the Drug Quantity Table for any synthetic cannabinoid (except a Schedule III, IV, or V substance) individually, or in combination with another controlled substance, is level 12.</p> <p>“<i>Synthetic cannabinoid</i>,” for purposes of this guideline, means any synthetic substance (other than synthetic tetrahydrocannabinol) that binds to and activates type 1 cannabinoid receptors (CB<sub>1</sub> receptors).</p>	

USSG § 2D1.1 cmt. n.8 (D) (Nov. 1, 2018).

The sentencing guidelines provide that the court must use the version of the guidelines in effect as of the date of sentencing, unless it would violate the Ex Post Facto Clause of the Constitution. USSG § 1B1.11. The last date of the offense of conviction is the controlling date for ex post facto purposes. *Id.* at cmt. n.2. Because there is no question but that the drugs involved in the conspiracy were synthetic cannabinoids, the application of the 2018 amendment, effective after the last date of

Harrigan's offense, would require the court to use a ratio of 1:167, with the potential of increasing the defendant's sentencing range, the court will adopt the parties' agreement to use the 2016 version. *See Peugh v. United States*, 569 U.S. 530, 541 (2013).

In the PSR, the probation officer relied upon the testimony of Jordan Trecki, Ph.D., a pharmacologist with the Drug Enforcement Administration (DEA), given in another federal criminal case. Speaking to the factors set forth in USSG § 2D1.1 cmt n. 6, Dr. Trecki opined that the subject drug, AB-FUBINACA, was more closely related to tetrahydrocannabinol (THC) than marijuana. Accordingly, applying the 2016 version of the guideline manual and its Drug Equivalency Tables, the probation officer calculated the drug quantity in the present case using a conversion ratio of 167 to one. This resulted in a drug weight of 21,587.764 kilograms attributable to the defendant, with a base offense level of 34. USSG § 2D1.1(c)(3).

The defendant objects to the conversion ratio used in the PSR, contending that the THC comparison is inappropriate, relying upon the opinion of his expert, Anthony P. DeCaprio, Ph.D.

*III. Evidence as to Proper Conversion Ratio.*

At the hearing in this case, the government presented the transcript of the testimony of Dr. Trecki given in the case of *United States v. Nahmani*, No. 1:14-CR-20926-KMM-1, in the United States District Court for the Southern District of Florida, at a sentencing hearing held on October 8, 2015. Gov't Ex. 3, ECF No. 95-3, as well as the transcript of the testimony of Cassandra Prioleau, Ph.D., a pharmacologist with the DEA, given in the case of *United States v. Anwar*, No. 6:15-CR-02005, in the United States District Court for the Northern District of Iowa, at a sentencing hearing held on February 7, 2017. Gov't Ex. 2, ECF No. 95-2. The government also introduced a written opinion dated February 26, 2015, by Dr. Trecki, opining as to the similarity of AB-FUBINACA to THC under USSG § 2D1.1 cmt. n.6, which was introduced at sentencing in the case of *United States v. Hurley*, No. 1:14-cr-00040-JL, in the United States District Court for the District of New Hampshire. Gov't Ex. 1, ECF No. 95-1.

The defendant objected to the introduction of these exhibits as not being subject to cross examination. Tr. 6, ECF No. 103. The objection was overruled. I find these exhibits to have sufficient indicia of reliability to support their probable accuracy, and thus they are admissible to decide a sentencing issue. USSG § 6A1.3(a). There was no objection made to the qualifications of the witnesses to give

the sworn expert testimony in question.<sup>4</sup> The written report was likewise admitted in a court proceeding and authored by a qualified expert. There was no objection made to the authenticity of the exhibits and the evidence is clearly relevant.

The defendant presented the live testimony of Dr. DeCaprio, as well as filed a copy of his written report. Notice of Intent to Introduce Expert Testimony Ex. 2, Export Report, ECF No. 81-2.

---

<sup>4</sup> Dr. Trecki “routinely testifies for the Government in criminal cases about the nature and effects of synthetic cannabinoids.” *United States v. El Hage*, 741 F. App’x at 197 (Dr. Trecki testified that synthetic cannabinoids laced in defendant’s “spice” were closer to THC than marijuana); *see also United States v. Galecki*, 932 F.3d 176, 184 (4th Cir. 2019) (testified in prosecution under Analogue Act that defendant’s “spice” had a physiological effect similar to controlled substances); *United States v. Mohsin*, 904 F.3d 580, 583 (7th Cir. 2018) (testified that “synthetic marijuana has more severe effects on consumers than traditional marijuana”); *United States v. Way*, No. 1:14-cr-00101-DAD-BAM-1, 2018 WL 5310773, at 4 (E.D. Cal. Oct. 25, 2018) (testified to hallucinogenic effect of alleged controlled substance analogue based on animal studies); *United States v. Gas Pipe, Inc.*, No. 3:14-cr-00298-M, 2018 WL 3641660, at \*2 (N.D. Tex. Aug. 1, 2018) (same); *United States v. Abdeljawad*, No. 1:15-cr-03394 WJ, 2018 WL 3025051, at \*3 (D.N.M. June 18, 2018) (testified based on animal and human studies that subject synthetic cannabinoids were most similar to THC under provisions of sentencing guidelines).

Similarly, Dr. Prioleau frequently testifies for the government on this general subject. *See, e.g., United States v. Jaber*, 728 F. App’x 913, 915–16 (11th Cir. 2018) (unpublished) (testified that based on animal and test-tube studies and emergency room data, subject synthetic cannabinoid was most closely related to THC); *United States v. Moreno*, 870 F.3d 643, 649 (7th Cir. 2017) (testified concerning similarity of charged drug to controlled substance under USSG § 2D1.1 cmt. n.6); *United States v. Williams*, No. 13-00236-01/03-CR-W-DGK, 2017 WL 1856081, at \*5, \*15 (Apr. 7, 2017), *R. & R. adopted*, 2017 WL 1683068 (W.D. Mo. May 2, 2017) (proposed testimony that synthetic cannabinoid was most closely related to THC was admitted, noting that Dr. Prioleau had testified in federal court approximately a dozen times and that no court had ever refused to qualify her as an expert.)



In his transcribed testimony and written opinion, Dr. Trecki opined that AB-FUBINACA has a pharmacological effect on the central nervous system substantially similar to THC, in that both bind to the cannabinoid receptor 1 (CB1), acting as an agonist activator, that is, producing an effect. Based on animal studies, which he stated normally mimic similar effects in humans, AB-FUBINACA has subjective effects substantially similar to that of THC. Gov't Ex. 1, p. 1, 2, ECF No. 95-1. Accordingly, Dr. Trecki was of the opinion that AB-FUBINACA was most closely related to THC within the relevant sentencing guidelines standards. Gov't Ex. 3, p. 15–16, ECF No. 95-3.

In her transcribed testimony, Dr. Prioleau was of the opinion based on animal studies that AB-FUBINACA has a hallucinogenic effect on the central nervous system that is substantially similar to that of THC, in accord with factor (B) of the commentary to USSG § 2D1.1(c). Gov't Ex. 2, at p. 12, 18–19, ECF No. 95-2. Similarly, she opined, again based on animal studies, that AB-FUBINACA was as potent as THC, in accord with factor (C). *Id.* at 13–14. She also testified that searches of the medical literature found reports of more severe adverse effects on humans who have ingested synthetic cannabinoids. *Id.* at 15.

Defendant's expert, Dr. DeCaprio, testified in person and submitted a written report. He is an associate professor at Florida International University and a forensic toxicologist. He estimated that he had previously testified concerning synthetic

cannabinoids in federal courts 25 times, a “combination of *Daubert* hearings, sentencing hearings, and trials.” Tr. 11, ECF No. 103.<sup>5</sup> In his written report, Dr. DeCaprio stated that the guidelines’ requirement set forth in the commentary to USSG § 2D1.1(c) requiring a comparison based on “substantially similar” factors is both imprecise and unrelated to scientific methodology. Accordingly, Dr. DeCaprio opined that this “makes it impossible to apply [the term “substantially similar”] to pharmacological data with any level of confidence.” Expert Report ¶ 11, ECF No. 81-2. As he testified, “I don’t really know what it means, to be honest.” Tr. 13, ECF No. 103. In addition, he stated that the “available pharmacological data for AB-FUBINACA are extremely limited.” Expert Report 1, ECF No. 81-2. Nevertheless, it was his opinion that because such data indicates that AB-FUBINACA binds to and activates both CB1 and CB2, and marijuana has binding potential for both CB1 and CB2 and THC only partially activates CB1 and has little or no activity at CB2, the “effects in humans of AB-FUBINACA are expected to be more ‘similar’ to those of marijuana” than THC. *Id.*

---

<sup>5</sup> In at least one case, Dr. DeCaprio and Dr. Trecki both testified at sentencing as to whether the synthetic cannabinoid was more like THC or marijuana, as is the issue here, and the district court chose to accept Dr. Trecki’s opinion. *United States v. Faroun*, 698 F. App’x 963, 965 (11th Cir. 2017) (unpublished) (“On this record, it was well within the district court’s discretion to rely on Dr. Trecki’s testimony over that of Dr. DeCaprio.”). Of course, each case and its evidence is different.

In addition, even assuming the application of AB-FUBINACA to the THC ratio, Dr. DeCaprio contested the Sentencing Commission's equivalency ratio of 1:167. Based upon data as to the THC content in marijuana seized from the street market in the United States, Dr. DeCaprio opined that a more appropriate marijuana equivalency ratio for AB-FUBINACA "would be in the range of 1:8 to 1:25." *Id.* ¶ 30.

#### *IV. Findings as to Proper Conversion Ratio.*

The similar-substance question under the commentary to USSG § 2D1.1 is an issue for factual determination. *United States v. Ramos*, 814 F.3d 910, 918 (8th Cir. 2016). Unfortunately, the expert testimony given in this case was not entirely satisfactory. The government's transcripts and report, while relevant, did not allow for a more fulsome explanation of the opinions given or for rebuttal of the defense expert's opinions. Moreover, the defense expert's opinions were fatally diluted by his initial conclusion that the sentencing guideline factors were simply not subject to scientific translation. On that basis, and even assuming that the government has the burden of persuasion by a preponderance of the evidence on this issue, *cf. United States v. Gilliam*, 987 F.2d 1009, 1013 (4th Cir. 1993), I find its expert testimony to be more positive and credible and will accept it as to the proper conversion ratio.<sup>6</sup>

---

<sup>6</sup> I also note that the DEA, in its temporary placement of AB-FUBINACA into Schedule I, found that it had pharmacological effects similar to THC. 79 Fed. Reg. 7577-01 (Feb. 10, 2014).

I also recognize, as suggested by the defendant's expert, that I am authorized in my discretion to reject on policy grounds a sentencing guideline that I otherwise find applicable. *See United States v. Farris*, 421 F. Supp. 3d 321, 329 (W.D. Va. 2019). I decline to do so in this instance. The government's expert testimony in this case indicated that synthetic cannabinoids may cause more severe health dangers to users than the natural marijuana they are designed to mimic. The defense expert recognizes that a synthetic cannabinoid such as AB-FUBINACA ought to be given a higher ratio than marijuana itself because of its potency, although he opines not nearly as high as the guideline itself. While I have considered his opinion, I do not find sufficient reasons to reject the sentencing guidelines on policy grounds.

#### *V. Quantity of Controlled Substances.*

The defendant objects to the quantity of drugs attributed to him. While the government has the burden of proof by a preponderance of the evidence as to such quantity, a mere objection by the defendant to the PSR is insufficient. The defendant must show why the facts or conclusions contained in the PSR are unreliable or unsupported. *See United States v. Powell*, 650 F.3d 388, 394 (4th Cir. 2011). No testimony was presented at the hearing as to such quantity by either side, although the defendant has submitted with his written objections to the PSR copies of the forensic examinations of certain of the drugs sold by him and seized by the authorities.

The evidence from these forensic examinations showed that there were two packages sent by Harrigan into this district that were seized by law enforcement and analyzed, one in 2014 (“the 2014 package”) and one in 2017 (“the 2017 package”). A laboratory analysis of the 2014 package showed that it contained numerous sealed plastic bags containing differently named substances totaling 1750 grams. Def.’s Obj. PSR Ex. 1, 2, ECF Nos. 80-1, -2. The analysis further found that the 2014 package contained a total of 460.85 grams of AB-FUBINACA. The remainder were substances described as NM2201, FUB-PB-22 and 5-F-ABICA. *Id.* The analysis noted that AB-FUBINACA is a federally controlled substance and NM2201 is considered an analog of the controlled substance AM2201. *Id.* Ex. 2, ECF No. 80-2.<sup>7</sup>

A laboratory analysis of the 2017 package showed that it contained a total of 1124 grams, of which there were 691.93 grams of AB-FUBINACA and the remainder was FUB-PB-22, NM2201, and XLR-11. *Id.* Ex. 3, ECF No. 80-3.<sup>8</sup>

The defendant makes two arguments. First, he contends that he can be held accountable for only the measurable quantity of AB-FUBINACA as found in the 2014 package and the 2017 package, described above. Alternatively, he argues that

---

<sup>7</sup> The DEA gave notice of temporary placement of NM2201 into Schedule I in 2018. 83 Fed. Reg. 31882 (July 10, 2018).

<sup>8</sup> XLR-11 was placed into Schedule I in 2016. 81 Fed. Reg. 29142 (May 11, 2016).

he should be held accountable for only the percentage of the confirmed AB-FUBINACA in those deliveries against the total quantities of synthetic cannabinoid found by the U.S. postal inspectors to have been shipped by him into this district (129,268.052 grams).

The sentencing guidelines make clear that “[w]here there is no drug seizure or the amount seized does not reflect the scale of the offense, the court shall approximate the quantity of the controlled substance . . . [and] may consider . . . similar transactions in controlled substances by the defendant.” USSG § 2D1.1 cmt. n.5

Accordingly, I find it proper to adopt the alternative suggestion of the defendant and use a proportion of the total distribution.

I calculate that this proportion would consist of the percentage of the combination of the 461 grams of AB-FUBINACA contained in the 2014 package, along with the 692 grams of AB-FUBINACA contained in the 2017 package, as to the total substances in of both packages of 2874 grams. That percentage, 40.12%, would be applied to the total distribution of 129,268.052 grams, resulting in 51,862.341 grams. However, as I have already determined, AB-FUBINACA has a conversion ratio of 1:167, so that the final marijuana conversion would be 8,661.01 kilograms. That scoring translates into a Base Offense Level of 32.

For these reasons, the defendant's objections are granted in part and denied in part. To the extent that there are other objections not discussed herein, I adopt the probation officer's responses contained in the addendum to the PSR.

It is so **ORDERED**.

ENTER: June 1, 2020

/s/ JAMES P. JONES

United States District Judge